Cannabis and cancer: toward a new understanding

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The treatment of cancer, including the disease itself and the symptoms associated with cancer and its therapy, is one of the most important emerging frontiers in cannabinoid therapeutics. With new regulatory environments opening up in Canada and around the world, access to a variety of quality-controlled cannabis-based products and administration techniques is becoming a reality for patients and their families desperate for new approaches to the devastating effects of cancer. The same is true for scientists and clinical researchers, who are starting to realize that, after years of deep freeze on cannabis-related research, funding, and materials, a thaw is starting. The promise, and even the hype, can reach hysterical proportions, with claims of cannabis cancer cures circulating in cyberspace at a furious pace. The challenge in the coming months and years will be to channel this interest into a productive clinical research program that informs and enlightens all those affected by cancer and its ravages.

This Current Oncology supplement brings together the work of some of the leading minds around the world who have dedicated themselves and their laboratories to understanding the role of cannabis and cannabinoids in the pathophysiology and management of cancer. This collection of papers takes us on a journey from bedside to bench and back, and provides a series of important signposts that will help to chart a path to better cancer care.

The story begins, as so much of the narrative of cannabis in medicine has done, with the patient experience. It is reminiscent of our modern age that the patient’s story in this collection begins with curiosity about cannabis. Fuelled by extensive coverage in social and conventional media alike, patients with a range of diseases are wondering whether they should consider cannabis as a therapeutic option. And they are asking their doctors about it.

It is an unfortunate reality of 2016 that many doctors still lack the basic knowledge about cannabis, cannabinoids, and the endocannabinoid system that would enable them to have an informed discussion with their patients, and that the knowledge gap gives rise to stigmatization, alienation, and a fracture of the doctor–patient relationship. Our patient describes her experience in trying to find answers and assistance, and with the help of her treating oncologist, she succeeds in securing legal access to cannabinoids, with remarkable results. Stories of this kind are occurring too often to be ignored or written off as placebo responses or outliers. As a medical profession, we are duty-bound to follow up on such experiences with critical and balanced investigation.

Perhaps the most well-known use of cannabinoids in cancer to date is in symptom management. Abrams expertly navigates the reader through the current scientific literature (with a nod to history) and combines his extensive clinical experience with his research findings to bring some clarity to this poorly understood area. Perhaps this is where the patient is most at risk of stigmatization: Desperate for ways to manage the profound nausea of chemotherapy, patients are known to sneak outside to smoke cannabis in the “smoking area” of the hospital and to return to the oncology unit able not only to handle the therapy, but to go out for lunch afterward. One day, we might look back on such experiences and wonder why it took so long for us to try to find ways to make this option more safe, effective, and pleasant. Further evidence is clearly required, but access and research can be mutual partners if hospital and clinic policies are written carefully and compassionately, and then appropriately monitored.

The third piece in the collection takes us into the laboratory, where Dr. Tamar Fisher and colleagues describe their experiments treating neuroblastoma cells with non-psychoactive cannabidiol and psychoactive tetrahydrocannabinol. Their novel findings about this particularly aggressive solid cancer common in children suggest not only that cannabinoids might be effective in treating the cancer itself, but also that the use of cannabidiol for that purpose could avoid the psychoactive side effects of tetrahydrocannabinol that are a concern in young developing brains. The availability of cannabidiol-rich oils for clinical use opens the door to serious study of the clinical relevance of their findings.

Dr. Guillermo Velasco and colleagues then take us farther down the path, with a comprehensive review of the anticancer mechanisms of cannabinoids. Their call for a personalized approach to the potential of cancer therapy with cannabinoids warrants serious attention. The field of oncology has led the way in developing pharmacogenomic strategies to identify tumour markers and then to tailor therapies to the patient’s individual case. The appeal by these authors to use a similar approach to identify biomarkers of possible cannabinoid responders in cancer care deserves a comprehensive and strategic effort.

The journey ends, fittingly, with a consideration of cannabis at the end of life. Dr. Sunil K. Aggarwal applies his critical reasoning to this sensitive area by reminding us that many of the more unwanted experiences of patients in palliative care—anxiety, pain, and anorexia, among
others—are excellent potential targets for cannabinoids, and that perhaps we are overlooking an important tool in our armamentarium of pharmacologic strategies.

If this unique supplement serves to stimulate clinicians to take a second look at cannabinoids in the full spectrum of oncology, to read more deeply into the literature, to support and study their patients choosing to use this approach, and to work with the research community to better understand the possible role of cannabinoids in cancer and palliative care, then it will have achieved its objectives.

CONFLICT OF INTEREST DISCLOSURES
I have read and understood Current Oncology’s policy on disclosing conflicts of interest, and I declare the following interests: My institution receives funding from CanndiMed for a trial in which I am principal investigator; I am the executive director of the nonprofit Canadian Consortium for the Investigation of Cannabinoids.

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